(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3: 19.05.2004 Bulletin 2004/21

(51) Int Cl.7: B60K 23/08

(11)

(43) Date of publication A2: 20.03.2002 Bulletin 2002/12

(21) Application number: 01122007.6

(22) Date of filing: 13.09.2001

(84) Designated Contracting States:

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU

MC NL PT SE TR

Designated Extension States:

AL LT LV MK RO SI

(30) Priority: 19.09.2000 JP 2000282895

(71) Applicant: NISSAN MOTOR CO., LTD. Yokohama-shi Kanagawa-ken (JP)

(72) Inventors:

lida, Norio
 Sagamihara-shi, Kanagawa-ken (JP)

Fukuda, Yoshiyuki
 Kawasaki-shi, Kanagawa-ken (JP)

 Kusukawa, Hirotaka Machida-shi, Tokyo (JP)

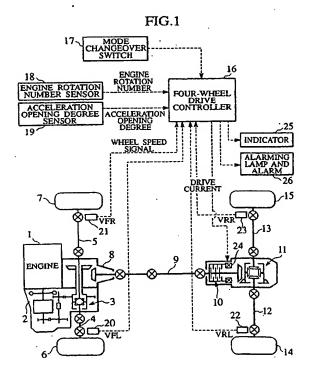
 Gotou, Atsuhiko Atsugi-shi, Kanagawa-ken (JP)

Mizuya, Satoshi
 Zama-shi, Kanagawa-ken (JP)

(74) Representative: Weber, Joachim, Dr. Hoefer & Partner Patentanwälte Gabriel-Max-Strasse 29 81545 München (DE)

(54) Front/rear wheel torque distribution control apparatus for four wheel drive vehicle

(57) To achieve a first object of the present invention, a starting time limit vehicle speed which preferentially permits a torque distribution to front and rear wheels at the time of starting of a vehicle is switched in accordance with a degree of a diameter difference. To achieve a second object of the present invention, when the vehicle makes a normal running with different-diameter tires mounted thereon, a front/rear wheel distribution torque caused by a front/rear wheel rotation speed difference owing to the different-diameter tires is limited by switching a torque gain depending on a degree of a diameter difference.



EP 1 188 597 A3



EUROPEAN SEARCH REPORT

Application Number EP 01 12 2007

Catacas	Citation of document with ind		Relevant	CLASSIFICATION OF THE			
Category	of relevant passage		to claim	APPLICATION (Int.CI.7)			
X	US 5 979 584 A (MART 9 November 1999 (199 * column 2, line 45- * column 5, line 4-3 * column 6, line 4-7	63 * 0 *	1,2	B60K23/08			
X	EP 0 393 596 A (NISS 24 October 1990 (199 * column 6, line 50-	0-10-24)	3				
A	AL) 15 September 199	TUNEN KARL VICTOR ET 88 (1998-09-15) - column 4, line 49 *	1-5				
Α	US 5 461 568 A (MORITA KOJI) 24 October 1995 (1995-10-24) * figure 5 *		6				
				TECHNICAL FIELDS SEARCHED (Int.CI.7)			
				B60K			
			!				
			}				
			-	į			
				}			
] .		1				
				1			
			1				
ļ	<u> </u>		1				
L	The present search report has b		<u> </u>	Examiner			
Phase of search		Date of completion of the search					
	BERLIN	22 March 2004		Nielles, D			
	CATEGORY OF CITED DOCUMENTS	T: theory or principl E: earlier patent do	curnent, but publ	invention ished on, or			
X:pa Y:pa do	rticularly relevant if taken alone rticularly relevant if combined with anoth current of the same category		D : document aited in the application L : document aited for other reasons				
O: no	chnological background cn-written disolosure termediate document	& : member of the s	& : member of the same patent lamily, corresponding document				

2

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 01 12 2007

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

22-03-2004

	Patent documen cited in search rep		Publication date		Patent family member(s)	Publication date
US	5979584	Α	09-11-1999	NONE		
EP	0393596	A	24-10-1990	JP JP JP DE DE EP US	2059816 C 2279427 A 7094207 B 69025487 D1 69025487 T2 0393596 A2 5060747 A	10-06-1996 15-11-1990 11-10-1995 04-04-1996 11-07-1996 24-10-1990 29-10-1991
US	5809443	Α	15-09-1998	GB JP	2295872 A ,B 8216715 A	12-06-1996 27-08-1996
US	5461568	A	24-10-1995	JP JP	2768134 B2 5319122 A	25-06-1998 03-12-1993

For more details about this annex: see Official Journal of the European Patent Office, No. 12/82